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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,733	12/19/2000	Doug Billings	6727/01088	4191
7278 7590 01/28/2008 DARBY & DARBY P.C. P.O. BOX 770 Church Street Station New York, NY 10008-0770			EXAMINER SINGH, RACHNA	
			ART UNIT 2176	PAPER NUMBER
			MAIL DATE 01/28/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/740,733

**Applicant(s)**

BILLINGS ET AL.

**Examiner**

Rachna Singh

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

1. This action is responsive to communications: Appeal Brief filed on 11/21/07.

The finality of the last Office action dated 03/21/07 is withdrawn, the prior art rejections previously set forth in the Non-Final Office action dated 09/31/06 are maintained, and a new Final Office action is hereby issued.

2. Claims 1-30 are pending. Claims 1, 13, 25, 26, 28, and 29 are independent claims.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-10, 13-15, 18-22, and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawat, US 6,662,340 B2, 12/9/03 (filed 5/30/02, Continuation-in-part of application filed on 4/28/00) in view of Lee et al., US 6,535,883 B1, 03/18/03 (filed 08/04/1999).

In reference to claims 1 and 25, Rawat discloses a means for assigning labels for fields lacking a label (or tag). See abstract. Rawat discloses assigning a label to fields that do not have labels and mapping a field according to its context or using an algorithm to analyze the field's programmatic name. See columns 6, lines 61-67 and column 7. This meets the limitation, ***providing labels to be assigned respectively to fields; assigning the labels to the fields***". Rawat teaches providing labels to content in fields in a database record which meets the limitation, ***extracting and arranging the contents in a database record, in which the contents of the fields are identified by the assigned labels***. See column 4, lines 28-67.

Rawat does not teach ***one or more rules applicable to the filled-in contents of the fields, machine reading the respective contents that have been filled into the fields***, or that the assigning of labels to the fields is ***responsive to the application of the rules of the content***".; however, Lee teaches all of the fields in a document will comprise an associated validation rule which tests the contents of each field entered by the user to ensure it is filled out correctly. This meets the limitation, ***one or more rules applicable to the filled-in contents of the fields***. Lee's testing of the content of the fields is done either after a user has entered data into the field or after the form has been transmitted back to a centralized server computer. See column 2, lines 24-37. Compare to ***machine reading the respective contents that have been filled into the fields***. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Rawat's label assignment with Lee's application of rules to

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"filled-in" content in order to arrive at a method for ***assigning the labels to the fields by testing the contents of the fields against the rules in order to find an assignment of the labels to the fields that satisfies the rules*** because it was desirable to provide labels for fields lacking labels in order to provide a user with a visual page element that communicated a field's purpose to a user. See column 3, lines 30-45 of Rawat. Furthermore, in assigning rules to all the fields of the document to determine whether the filled-in content is accurate, the system is able to determine what type of information/data is contained within the field and thus assign a label appropriately.

In reference to claim 2, Rawat discloses analyzing the field's programmatic name. Following the field name analysis, the field name is compared to the entries in the field label dictionary and a match is found. See column 7, lines 1-35.

In reference to claim 3, Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least one field preceding a current field and the mapping of the current field is based on the mapping of the preceding field. See column 10, lines 45-55.

In reference to claim 6, Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least one field preceding a current field and the

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mapping of the current field is based on the mapping of the preceding field. See column 10, lines 45-55.

In reference to claims 7-10, Rawat discloses analyzing the field's programmatic name. Following the field name analysis, the field name is compared to the entries in the field label dictionary and a match is found. See column 7, lines 1-35. The dictionary could provide multiple label options such as a "area code" or "phone number" for a field comprising numbers. See columns 7-8. Rawat discloses utilizing the default value with the field label dictionary that is found in the mapping of the field name to the dictionary as the label. See column 7, lines 1-35.

Claims 13-15 and 18-22 are rejected under the same rationale used in claims 1-3 and 6-10 respectively above.

In reference to claim 26, Rawat discloses a means for assigning labels for fields lacking a label (or tag). See abstract. Rawat discloses assigning a label to fields that do not have labels. Mapping a field according to its context or using an algorithm to analyze the field's programmatic name. See columns 6, lines 61-67 and column 7. This meets the limitation, ***providing labels to be assigned respectively to fields; assigning the labels to the fields***. Rawat teaches providing labels to content in fields in a database record which meets the limitation, ***extracting and arranging the***

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***contents in a database record, in which the contents of the fields are identified by the assigned labels.*** See column 4, lines 28-67.

Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least one field preceding a current field and the mapping of the current field is based on the mapping of the preceding field which meets the limitation, ***one or more geometrical rules indicated an expected geometrical relationship between two or more of the filled-in fields in the form.*** See column 10, lines 45-55.

Rawat does not teach ***assigning labels based on testing the information in the fields against rules in order to find an assignment of the labels to the fields that satisfies the rules***; however, Lee does. Lee teaches all of the fields in a document will comprise an associated validation rule which tests the contents of each field entered by the user to ensure it is filled out correctly. Lee's testing of the content of the fields is done either after a user has entered data into the field or after the form has been transmitted back to a centralized server computer. See column 2, lines 24-37.

This meets the limitation, ***assigning the labels to the fields by testing the information in the fields against the rules in order to find an assignment of the labels to the fields that satisfies the rules.*** It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Rawat's label assignment with Lee's application of rules to "filled-in" content in order to arrive at a method for ***assigning the labels to the fields by testing the information in the fields against the rules in order to find an assignment of the labels to the fields that satisfies the***

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**rules** because it was desirable to provide labels for fields lacking labels in order to provide a user with a visual page element that communicated a field's purpose to a user. See column 3, lines 30-45 of Rawat. Furthermore, in assigning rules to all the fields of the document to determine whether the filled-in content is accurate, the system is able to determine what type of information/data is contained within the field and thus assign a label appropriately.

Claims 28 and 29 are rejected under the same rationale used in claim 26 above.

In reference to claim 27, Rawat teaches that the form can comprise a plurality of fields which could include a form that is a table. The rest of claim 27 is rejected under the same rationale used in claim 1 above.

In reference to claim 30, Rawat does not teach a paper document; however, Lee teaches where a service provider already has a set of paper forms, a form template may be created for a paper form by creating a text file and typing in the name of the form, as well as names for fields of the form. In this manner, a service provider's paper forms may very quickly be converted into form templates. Those skilled in the art will appreciate that other methods of creating form templates may be employed without departing from the spirit of the invention. It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide a preprinted template for paper forms in order to easily convert the paper document into an electronic version.



5. Claims 4-5 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawat, US 6,662,340 B2, 12/9/03 (field 5/30/02, Continuation-in-part of application filed on 4/28/00) in view of Lee et al., US 6,535,883 B1, 03/18/03 (filed 08/04/1999), As applied to claim 1 and 13, and further in view of Hetherington, US 2002/0010714 A1, 1/24/02 (filed 7/3/01, divisional of application filed 8/6/98).

In reference to claims 4-5 and 16-17, Rawat/Lee do not teach that the relation between the content fields is mathematical or semantic; however, Hetherington teaches a method of examining elements of data to determine attributes and examining the content of the elements and the contextual relationships to each other to determine semantic or syntactic information about the data. See page 17, paragraph [0370]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Hetherington's relationship matching in the system of Rawat/Lee in order to assign labels to the control items in an appropriate manner relative to the type of relationship among the different fields.

6. Claims 11-12 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawat, US 6,662,340 B2, 12/9/03 (field 5/30/02, Continuation-in-part of application filed on 4/28/00) in view of Lee et al., US 6,535,883 B1, 03/18/03 (filed 08/04/1999), As applied to claim 1 and 13, and further in view of Gupta et al., US 6,199,079 B1, 3/6/01 (filed 3/20/98).

In reference to claims 11-12 and 23-24, Rawat/Lee does not teach that the document comprises a plurality of form documents sharing a common layout and that the assignment is made with respect to all form documents. Rawat also does not teach that the assignment comprises choosing the assignment so as to satisfy a statistical criterion with respect to the satisfaction of the rules by the contents of the fields. Gupta, however, teaches identifying and matching identifiers from a form to a plurality of pages. See figure 1D and columns 9-10. The attributes are obtained from a first page and a matching pattern is determined to use the information for subsequent forms.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Gupta's recognition of patterns of data in fields of different forms to the system of Rawat/Lee as it extends its use to more than one document thus allowing fields of multiple documents to be labeled appropriately thus saving time spent by a user manually entering labels for common fields among multiple documents.

### ***Response to Arguments***

7. Applicant's amendments and arguments filed 12/13/06 have been fully considered.

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Applicant argues that in order for Rawat to be effective as prior art, the '028 patent from which it claims priority as a Continuation-in-part, must disclose that it was desirable to provide labels for fields lacking labels. Specifically, Applicant argues that the '028 patent does not teach providing a label when it discloses a mapping process. In other words, the '028 patent fails to hint there is a problem of unlabeled fields.

Examiner disagrees in light of the following remarks. The '028 patent discloses a mapping process for recognizing a form's fields and structure in order to identify required fields and match form fields with user data fields in the database to which they correspond. See column 12, lines 24-36. The '028 patent further teaches that a net result of the mapping process is that a form is parsed, its structure analyzed, and an identifier string is created and assigned from a concatenation of all the required fields in the form. The data fields can then be matched with the user data stored in the database. The '028 patent further discusses that forms can be structured such that fields are not assigned names, assigned the same name, or one or more fields are assigned dynamic names (i.e. labels). See column 13, lines 5-54. Assigning a dynamic field name requires examining the contents or structure of the document. See column

Thus, the '028 patent does discuss assigning field names or "labels" to fields in a document. See column 13, lines 5-54. Thus the '028 patent provides support for the teaches of Rawat as discussed in the rejection above.

Applicant argues on pages 10-11 of the Remarks, none of the references teach assigning labels to fields by testing the contents that have been filled into the fields.

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Examiner relied on Rawat for the teachings of assigning a label to a field lacking a label by mapping a field according to its context to analyze the field's programmatic name.

Rawat does not expressly teach reading the contents that are in the field or responsive to the application of rules of the content; however, Lee teaches all fields in a document comprise a validation rule that texts the content of each field to ensure it is filled out correctly. Applicant argues the '028 patent does not teach studying the content of a document on page 11 of the remarks. Examiner's rejections rely on Lee to teach the feature of reading the contents of the fields to see that it satisfies some rule. The **combination** of Rawat and Lee teaches the feature of assigning the labels to fields responsive to the application of the rules of the content. Examiner's previous argument regarding the '028 patent was to show that there is a motivation in the '028/Rawat patent to recognize a form's field & structure in order to identify fields and match form fields with user data fields in the database as in column 12, lines 24-36.

In view of the comments above, the rejection is maintained.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachna Singh whose telephone number is 571-272-4099. The examiner can normally be reached on M-F (8:30AM-6:00PM). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on 571-272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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01/24/08